Favorable reconsideration of this application as presently amended and in light of the following discussion is respectfully requested.

After entry of the foregoing amendment, Claims 1-7 and 30-36 remain pending in the present application. Claims 1-7 and 30-36 have been amended. Support for the substantive aspect of the amendments, not relating to matters of form, can be found at least on page 72, lines 17-23 of the Applicants' disclosure. Since no new issues are presented, it is respectfully requested that the Examiner enter the amendment. The proposed amendments to Claims 1-7 and 30-36 will not require any additional searching or consideration by the Examiner, and will place these claims in better form for allowance or appeal. No new matter has been added by the amendment.

By way of summary, the outstanding Official Action presents the following issues: Claim 36 is objected to; Claims 1-7 and 30-36 stand rejected under 35 U.S.C. § 102 as being anticipated by Ito, U.S. Patent 5,373,349.

OBJECTIONS TO THE CLAIMS

Claim 36 has been amended in light of the comments noted in the Official Action and as shown in the marked-up copy. Accordingly, it is respectfully requested that the objection to Claim 36 be withdrawn.

REJECTION UNDER 35 U.S.C. § 102

The Official Action has rejected Claims 1-7 and 30-36 under 35 U.S.C. § 102 as being unpatentable over Ito. The Official Action states that Ito discloses all of the claim limitations of the rejected claims. Applicants respectfully traverse the rejection.

Amended Claim 1 recites *inter alia*, an image forming device management system including:

> "...each of the image forming devices being configured to detect a transmission fault from at least one of the central service station and the communication control unit over a predetermined period and to display a signal line separation message when the image forming device has detects the transmission fault from at least one of the central service station and the communication control unit over the predetermined period.

Ito discloses a copy machine control system. The control system enables communication between a user side and an administration side such that problems with hardware can be detected and serviced in a timely manner. More specifically, the user side includes copying machines (4) operably linked to data terminals (1). Modems (52) are provided for communicating with the data terminals and a telephone set (53). The administrator side includes a modem (72) a telephone set (73) and a computer (90).[1]

In use, the copier initiates a communication from the user side to the administrator side via the modem of the data terminal for contacting a modem of the administrator side.[2] For example, where the copier is malfunctioning, the copier notifies the computer of the administrator side via an initiated communication. Upon reception of the communication at the computer of the administrator side, the computer replies by sending service scheduling data back to the user side such that a display of the copier can notify a user that maintenance has been scheduled. Where communication cannot be established between the user side and the administrator side, an alternative form of contact is displayed on the copier such that the user may schedule maintenance by another form of communication.[3]

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[1] Figure 1, Column 3, lines 28-54.

[2] Figure 1, column 3, lines 20-53.

[3] Figure 6, column 7, lines 21-32.

Applicants' invention detects a fault in the communication paths such as the loss of a signal between at least one of the image forming devices (100) and the communication control unit (200) and the image forming device (100) and the central service station (300). A message is displayed at the image forming device to alert a user that there is a fault in the communication path.

Applicants have noted problems in the area of the image forming device management systems. In particular, background art image forming device management systems often do not detect faults in the communication paths of management systems. For example, where a communication line is interrupted, user side components of systems such as Ito are incapable of alerting the users to the fault in the communication path. In other words, the user of the Ito system does not know if the administrator side is not receiving communication due to call volume (i.e., busy signal) or a fault in the communication path.

For adressing this deficiency in the prior art, an embodiment of the claimed invention provides, as recited in amended Claim 1

> "...each of the image forming devices being configured to detect a transmission fault from at least one of the central service station and the communication control unit..."

Ito does not disclose or suggest providing information pertaining to a fault in a communication path. Ito merely discloses that a communication which was initiated was unsuccessfully transmitted.

Therefore, it is respectfully submitted that Ito does not disclose nor suggest the invention of amended independent Claims 1 and 7 or any claims dependent therefrom.

New Claims 30-36 are "means plus function" version of the above-discussed Claims 1-7, and at least cover the disclosed structures that accomplish the claimed functions. Thus,

Claims 30-36 are patentably distinguished over the cited art for the same reasons discussed above.

CONCLUSION

Consequently, in view of the foregoing amendment and remarks, it is respectfully submitted that the present application, including Claims 1-7 and 30-36, is patentably distinguishing over the prior art, is in condition for allowance, and such action is respectfully requested at an early date.

Respectfully submitted,

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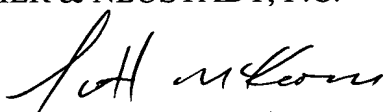

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IN THE CLAIMS

Please amend Claims 1-7 and 30-36 as follows:

--1. (As Amended) An image forming device management system including:

a plurality of image forming devices;

a central service station for providing a maintenance service for the image forming devices; and

a communication control unit connected to each of the image forming devices by a signal line, the communication control unit connecting one of the image forming devices to the central service station by a communication network,

[wherein] each of the image forming devices [is] being configured to detect [that the image forming device has no signal] a transmission fault from at least one of the central service station and the communication control unit over a predetermined period and to display a signal line separation message when the image forming device [has no signal] detects the transmission fault from at least one of the central service station and the communication control unit over the predetermined period.

2. (As Amended) The system according to claim 1, wherein each of the image forming devices is configured to detect [that the image forming device has no signal] the

transmission fault from the communication control unit over the predetermined period based on a response of the image forming device to a selecting of the communication control unit to the image forming device.

3. (As Amended) The system according to claim 1, wherein each of the image forming devices is configured to detect [that the image forming device has no signal] the transmission fault from the central service station over the predetermined period based on a response of the image forming device to a selecting of the central service station to the image forming device.

4. (As Amended) The system according to claim 1, wherein each of the image forming devices is configured to detect [that the image forming device has no signal] the transmission fault from the communication control unit over the predetermined period based on a response of the image forming device to a polling of the communication control unit to the image forming device.

5. (As Amended) The system according to claim 1, wherein each of the image forming devices includes a communication interface unit having a terminal connected to the communication control unit, and each of the image forming devices is configured to detect [that the image forming device has no signal] the transmission fault from the communication control unit over the predetermined period based on a detected voltage of the terminal of the communication interface unit.

6. (As Amended) The system according to claim 1, wherein each of the image forming devices includes a connection detecting circuit having an input connected to the communication control unit, and each of the image forming devices is configured to detect [that the image forming device has no signal] the transmission fault from the communication

control unit over the predetermined period based on an output of the connection detecting circuit.

7. (As Amended) An image forming device management system including:

a plurality of image forming devices;

a central service station for providing a maintenance service for the image forming devices; and

a communication control unit connected to each of the image forming devices by a signal line, the communication control unit connecting one of the image forming devices to the central service station by a communication network,

[wherein] each of the image forming devices [is] being configured to detect [that the image forming device has no signal] a transmission fault [from] of the communication control unit over a predetermined period and to display a signal line separation message when the image forming device has [no signal] detects the transmission fault from the communication control unit over the predetermined period, and

wherein said display of the signal line separation message indicates a [separation of] transmission fault along the signal line between the image forming device and the communication control unit.

30. (As Amended) An image forming device management system including:

a plurality of means for image forming;

maintenance service means provided for the plurality of means for image forming; and

means for communicating and controlling, connected to each of the means for image forming by a signal line, the means for communicating and controlling connecting one of the means for image forming to the maintenance service means by a communication network,

[wherein] each of the means for image forming [is] being configured to detect [that the means for image forming has no signal] a transmission fault from at least one of the maintenance service means and the means for communicating and controlling over a predetermined period and to display a signal line separation message when the means for image forming [has no signal] detects the transmission fault from at least one of the maintenance service means and the means for communicating and controlling over the predetermined period.

31. (As Amended) The system according to claim 30, wherein each of the means for image forming is configured to detect [that the means for image forming has no signal] the transmission fault from the means for communicating and controlling over the predetermined period based on a response of the means for image forming to a selecting of the means for communicating and controlling to the means for image forming.

32. (As Amended) The system according to claim 30, wherein each of the means for image forming is configured to detect [that the means for image forming has no signal] the transmission fault from the maintenance service means over the predetermined period based on a response of the means for image forming to a selecting of the maintenance service means to the means for image forming.

33. (As Amended) The system according to claim 30, wherein each of the means for image forming is configured to detect [that the means for image forming has no signal] the transmission fault from the means for communicating and controlling over the predetermined period based on a response of the means for image forming to a polling of the means for communicating and controlling to the means for image forming.

34. (As Amended) The system according to claim 30, wherein each of the means for image forming includes a communication interface unit having a terminal connected to the

means for communicating and controlling, and each of the means for image forming is configured to detect [that the means for image forming has no signal] the transmission fault from the means for communicating and controlling over the predetermined period based on a detected voltage of the terminal of the communication interface unit.

35. (As Amended) The system according to claim 30, wherein each of the means of image forming includes a connection detecting circuit having an input connected to the means for communicating and controlling, and each of the means for image forming is configured to detect [that the means for image forming has no signal] the transmission fault from the means for communicating and controlling over the predetermined period based on an output of the connection detecting circuit.

36. (As Amended) A means for image forming management [system] including:

a plurality of means for image forming;

maintenance service means provided for the means for image forming; and

means for communicating and controlling connected to each of the means for image forming by a signal line, the means for communicating and controlling connecting one of the means for image forming to the maintenance service means by a communication network,

[wherein] each of the means for image forming [is] being configured to detect [that the means for image forming has no signal] a transmission fault from the means for communicating and controlling over a predetermined period and to display a signal line separation message when the means for image forming [has no signal] detects the transmission fault from the means for communicating and controlling over the predetermined period.--